2007 ARIZONA SEAT BELT / MOTORCYCLE HELMET / CHILD RESTRAINT USE SURVEY

September 2007

Prepared For

Governor's Office of Highway Safety
ARIZONA
Janet Napolitano
Governor

Governor's Office of
Highway Safety

Prepared By

Behavior Research Center, Inc.
45 East Monterey Way
Phoenix, Arizona 85012
(602) 258-4554

behavior research center

TABLE OF CONTENTS

LIST OF TABLES

behavior research center, inc.
phone (602) 258-4554 • fax (602) 252-2729

RESEARCH IN PUBLIC OPINION, PUBLIC POLICY & CONSUMER BEHAVIOR
p.o. box 13178 • phoenix, arizona 85002 • www.brc-research.com

INTRODUCTION

This study was commissioned by the Governor's Office of Highway Safety (GOHS) as part of the State and Community Highway Safety Grant Program. The purpose of this effort was to determine the 2007: 1) seat belt use rate; 2) child restraint use rate; and 3) motorcycle helmet use rate in the State of Arizona. In addition, this research also collected data on drivers' use of hand held cell phones.

The information contained in this report is based on a random probability sample of signalized and stop signed intersections in Arizona. Observations were made at 127 sites located in six counties. Each of the site observations lasted for 60 minutes and were conducted during daytime hours. Where possible, the 2007 observations were made at the same sites utilized in the prior studies. All of the observations on this project were conducted by professional interviewers of the Behavior Research Center, Inc. between August 3 and 24, 2007. This timing followed the GOHS's Click It or Ticket campaign which ran from May 21 to June 3, 2007. For a detailed description of the procedures followed during the course of this project, please refer to the Methodology section of this report.

The Behavior Research Center has presented all of the data germane to the basic research objectives of this project. However, if the Governor's Office of Highway Safety requires additional data retrieval or interpretation, we stand ready to provide such input.

BEHAVIOR RESEARCH CENTER

behavior research center, inc.
phone (602) 258-4554 • fax (602) 252-2729
RESEARCH IN PUBLIC OPINION, PUBLIC POLICY & CONSUMER BEHAVIOR
p.o. box 13178 • phoenix, arizona 85002 • www.brc-research.com

SUMMARY OF THE FINDINGS

Overall seat belt use by front seat occupants in the 2007 study is 80.9 percent – 82.5 percent f
or drivers and 72.7 percent for passengers. The overall use rate is up from 78.9 percent in 2006.

The data presented in Table 1 also reveals that 2007 child safety restraint use is 86.2 percent (down from 88.4% in 2006) and that 2007 motorcycle helmet use is 74.6 percent (up from 59.0% in 2006) and the highest use figure recorded to date. In addition, driver cell phone use is 14.6 percent.

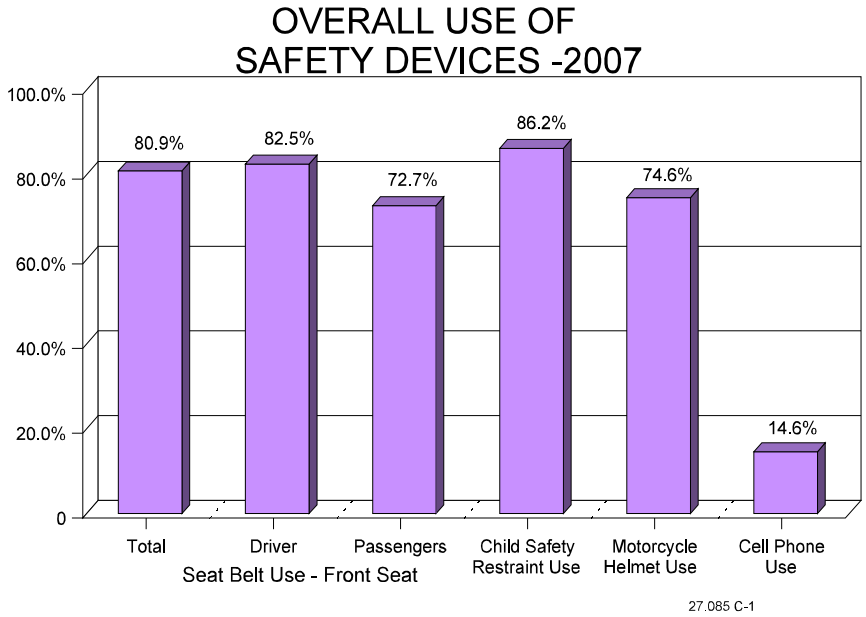


TABLE 1: OVERALL USE OF SAFETY DEVICES BY YEAR

Study Year	Seat Belt Use – Passenger Vehicles[1] Front Seat			Child Safety Restraint Use[3]	Motorcycle Helmet Use[3]	Cell Phone Use[4]
	Total	Drivers	Passengers			
2007	80.9%	82.5%	72.7%	86.2%	74.6%	14.6%
2006	78.9	79.4	76.4	88.4	59.0	NA
2005	93.3	93.3	93.3	95.2	36.5	NA
2004	95.3	95.1	95.3	97.6	35.9	NA
2003 POST[2]	85.8	86.0	85.8	89.7	44.9	NA
2003 PRE[2]	79.5	79.5	79.5	82.2	35.8	NA
2002	73.7	74.0	73.7	71.6	43.5	NA
2001	74.4	74.3	74.4	72.0	41.7	NA
2000	75.2	75.0	75.2	71.7	39.0	NA

[1] Cars, trucks, vans, sports utility vehicles. Commercial vehicles not included
[2] Post enforcement and pre enforcement
[3] Major annual fluctuation can be result of limited number of observations
[4] By driver - hand held

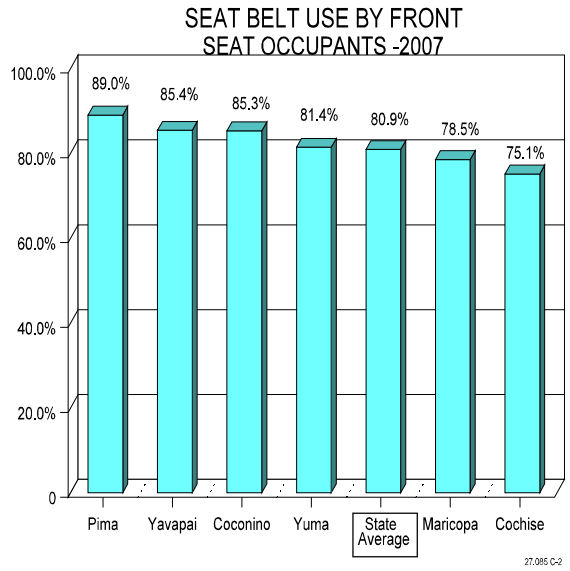
~~~~~~~~~~~~~~~~

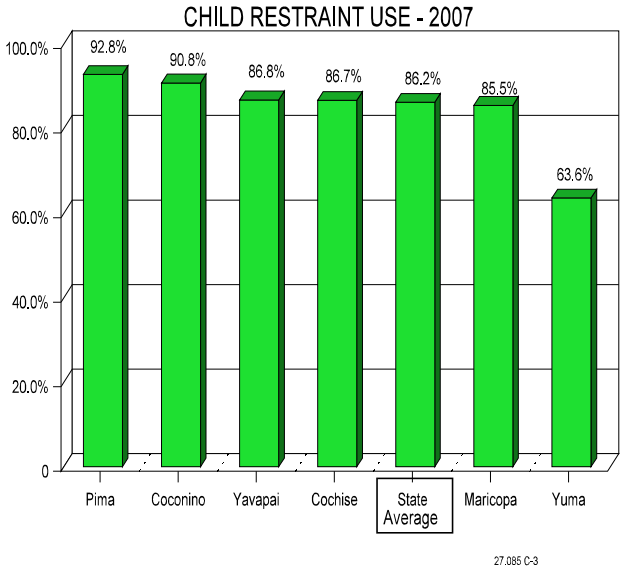
behavior research center, inc.
phone (602) 258-4554 • fax (602) 252-2729
RESEARCH IN PUBLIC OPINION, PUBLIC POLICY & CONSUMER BEHAVIOR
p.o. box 13178 • phoenix, arizona 85002 • www.brc-research.com
~~~~~~~~~~~~~~~~

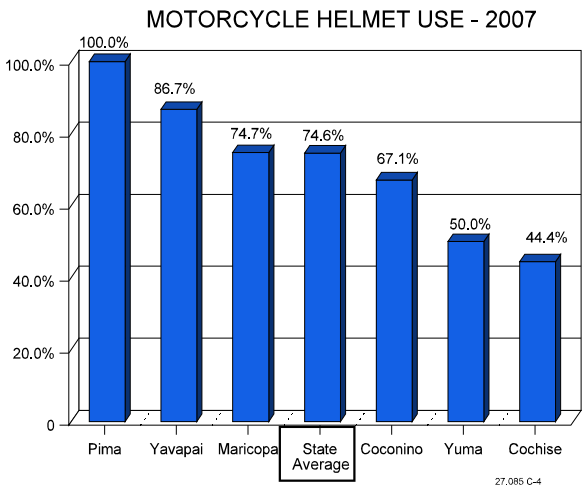
The charts below present 2007 safety restraint use by county. As may be seen, Pima County records the highest use rates in each category.

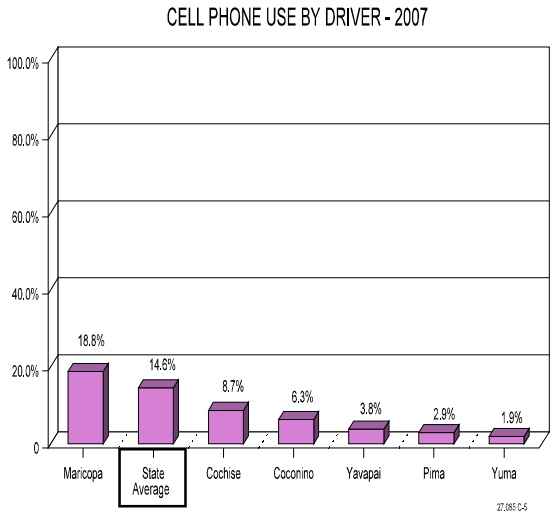
- Pima County records the highest rate of front seat occupant seat belt use (89.0%) and Cochise County the lowest (75.1%).
- Pima County records the highest rate of child restraint use (92.8%) and Yuma County the lowest (63.6%).
- Pima County records the highest rate of motorcycle helmet use (100.0%) and Cochise County the lowest (44.4%).

Cell phone use by drivers reaches a high of 18.8 percent in Maricopa County and a low of 1.9 percent in Yuma County. Maricopa County cell phone use is more than double the use recorded in any other county.





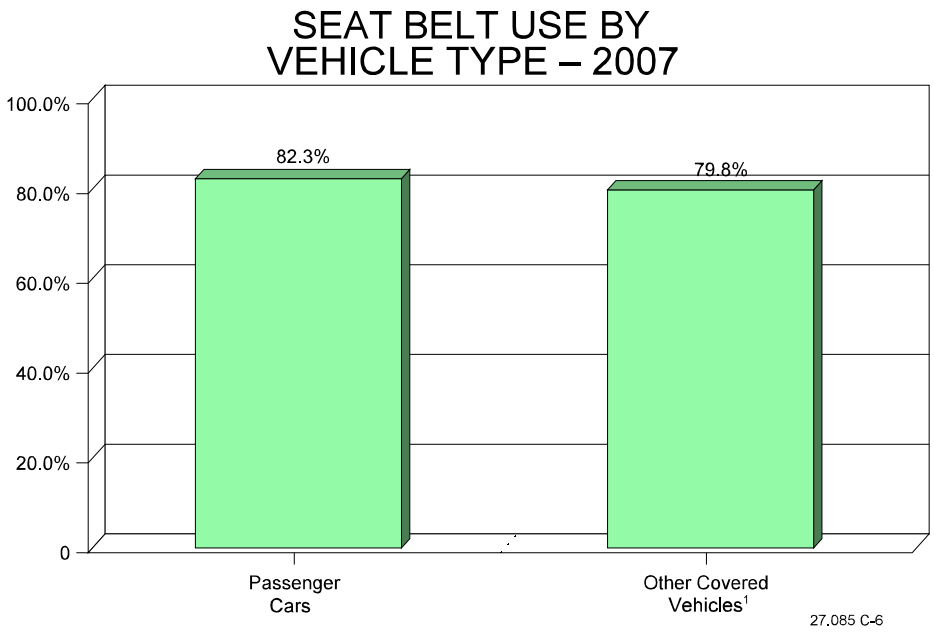




* Subject to major variation due to limited number of observations

behavior research center, inc.
phone (602) 258-4554 • fax (602) 252-2729
RESEARCH IN PUBLIC OPINION, PUBLIC POLICY & CONSUMER BEHAVIOR
p.o. box 13178 • phoenix, arizona 85002 • www.brc-research.com

The chart below reveals that there is only a minor difference in seat belt use between passenger cars and other covered vehicles.



[1] Light trucks, vans, sport utility vehicles, sports cars

behavior research center, inc.
phone (602) 258-4554 • fax (602) 252-2729
RESEARCH IN PUBLIC OPINION, PUBLIC POLICY & CONSUMER BEHAVIOR
p.o. box 13178 • phoenix, arizona 85002 • www.brc-research.com

METHODOLOGY

This study utilized a Multi-State Area Probability Sampling (MSAPS) methodology as recommended by the National Highway Traffic Administration (NHTSA) for observational survey (UNIFORM CRITERIA FOR STATE OBSERVATIONAL SURVEYS OF SEAT BELT USE, 23 CFR PART 1340). This method is designed to yield statistically valid estimates of not more than +/- five percent of the following:

1. The current Seat Belt Use (SBU) rate in the State of Arizona
2. The current Motorcycle Helmet Use (MHU) rate in the State of Arizona
3. The current Child Restraint Use (CRU) rate in the State of Arizona

In accordance with NHTSA's recommendations, all controlled intersections or all road segments in selected Arizona counties were eligible for sampling in the study. The first stage in the sampling process was to determine which Arizona counties would be selected as primary sampling units (PSUs). This was accomplished based on the vehicle miles of travel in each county as presented in Table 2. Following GOHS's direction, six Arizona counties (Maricopa, Pima, Coconino, Yavapai, Cochise and Yuma) were selected as PSUs. These six counties were selected because they contain 86.456 percent of the total state population which meets the NHTSA requirement that the sampling frame must include at least 85 percent of a state's population.

TABLE 2: VMT BY COUNTY
WITH COUNTY POPULATION ESTIMATE

	TOTAL VMT[1]		POPULATION[2]	
COUNTY	NUMBER (000)	PERCENT	NUMBER (000)	PERCENT
Maricopa	85,287	52.060	3,793	60.159
Pima	22,777	13.903	981	15.560
Pinal	9,881	6.031	300	4.758
Mohave	8,200	5.005	198	3.140
Yavapai	7,622	4.652	213	3.378
Coconino	7,020	4.285	132	2.094
Yuma	5,223	3.188	197	3.124
Cochise	4,217	2.574	135	2.141
Navajo	3,645	2.225	114	1.808
Apache	2,921	1.783	75	1.189
La Paz	2,878	1.757	21	.333
Gila	1,770	1.084	57	.904
Santa Cruz	1,317	.804	45	.714
Graham	811	.495	36	.571
Greenlee	256	.154	8	.127
Statewide	163,825	100.000	6,305	100.000

[1] Source: Arizona Department of Transportation, 3/26/07 estimate.

[2] Source: Arizona Department of Economic Security, 7/1/06 estimate.

~~~~~~~~~~~~~~~~

behavior research center, inc.
phone (602) 258-4554 • fax (602) 252-2729
RESEARCH IN PUBLIC OPINION, PUBLIC POLICY & CONSUMER BEHAVIOR
p.o. box 13178 • phoenix, arizona 85002 • www.brc-research.com
~~~~~~~~~~~~~~~~

The second stage in the sampling process was to select the number of total observational sites in the six selected PSUs to achieve the desired level of sampling accuracy. This process involved the random selection of intersections in the selected PSUs which are controlled by either signals or stop signs. Per GOHS's direction, a total of 131 observational sites were selected in six PSUs. Observations could not be conducted at four of these locations however since they are located inside Ft. Huachuca Army Base which is a restricted area. The 127 sites included in this research were the same ones used in the prior surveys.

According to NHTSA recommendations, the VMT of each PSU was used as the weight for each selected PSU.

TABLE 3: NUMBER OF ROAD SEGMENT SAMPLES BY COUNTY

Selected County As The PSU	Number of State Highway System Route Segments	Number of Road Segment Samples	Weight for Each PSU (000)
Maricopa	581	27	85,287
Pima	254	27	22,777
Yavapai	286	23	7,622
Coconino	337	25	7,020
Yuma	126	15	5,223
Cochise	248	10	4,217

~~~~~~~~~~~~~~~

The specific observational sites utilized on this project are listed on Table 4.

behavior research center, inc.
phone (602) 258-4554 • fax (602) 252-2729
Research in Public Opinion, Public Policy & Consumer Behavior
p.o. box 13178 • phoenix, arizona 85002 • www.brc-research.com
~~~~~~~~~~~~~~~

TABLE 4: INTERSECTIONS UTILIZED

COUNTY	CITY	SITE CODE	INTERSECTION	CORNER	DIRECTION OF TRAFFIC	DATE
Cochise	Sierra Vista	001	Highway 90 and Highway 90 Bypass	Northeast	West	8/7, 5-6 PM
		002	Fry Boulevard and Buffalo Soldier Trail	Southeast	North	8/8, 7-8 AM
		003	Fry Boulevard and 7th Street	Southeast	North	8/8, 9-10 AM
		004	Fry Boulevard and Lenzner	Northwest	South	8/8, 11 AM - 12 PM
		005	Coronado Drive and Fry Boulevard	Northwest	South	8/8, 1-2 PM
		006	Fry Boulevard and Calle Portal	Southeast	North	8/8, 3-4 PM
		007	Highway 90 and Highway 92	Southwest	East	8/9, 8-9 AM
		008	Footnote 1			
		009	Highway 92 and Foothills Drive	Northeast	West	8/9, 10-11 AM
		010	Footnote 1			
		011	Footnote 1			
		012	Footnote 1			
	Benson	013	I-10 Business and Ocotillo Avenue	Southeast	North	8/7, 9-10 AM
	Douglas	014	9th Street and G Avenue	Northwest	South	8/7, 1-2 PM
Coconino	Flagstaff	015	Milton Road and Forest Meadows	Southwest	East	8/7, 11 AM - 12 PM
		016	Milton Road and University Drive	Northwest	South	8/7, 2-3 PM
		017	Plaza Way and Milton Road	Southwest	East	8/7, 4-5 PM
		018	Milton Road and Highway 66	Southwest	East	8/8, 7-8 AM
		019	Butler Avenue and Highway 66	Northwest	South	8/8, 9-10 AM
		020	Butler Avenue and Beaver Street	Southwest	East	8/8, 11 AM - 12 PM
		021	Enterprise Road and Butler Avenue	Northeast	West	8/8, 1-2 PM
		022	Lone Tree Road and Woodland Drive	Southeast	North	8/8, 3-4 PM
		023	Santa Fe and Beaver Street	Northeast	West	8/9, 8-9 AM

1 - These randomly chosen intersections (site codes 008, 010, 011, 012) are located inside Ft. Huachuca Army Base which is a restricted area. Therefore, no observations could be conducted

(CONTINUED)

(CONT'D) TABLE 4: INTERSECTIONS UTILIZED

COUNTY	CITY	SITE CODE	INTERSECTION	CORNER	DIRECTION OF TRAFFIC	DATE
Coconino	Flagstaff	024	San Francisco Street and Aspen Avenue	Northwest	South	8/9, 10-11 AM
		025	Birch Avenue and Beaver Street	Southwest	East	8/9, 12-1 PM
		026	Aspen Avenue and LeRoux Street	Southeast	North	8/9, 2-3 PM
		027	San Francisco Street and Birch Avenue	Northeast	West	8/9, 4-5 PM
		028	Columbus Avenue and Beaver Street	Southeast	North	8/14, 11 AM - 12 PM
		029	Beaver Street and Forest Avenue	Southeast	North	8/14, 2-3 PM
		030	Switzer Canyon and Highway 89	Southwest	East	8/14, 4-5 PM
		031	Arrowhead Avenue and Highway 89	Southwest	Northeast	8/15, 7-8 AM
		032	4th Street and Highway 89	Southwest	Northeast	8/15, 9-10 AM
		033	Postal Blvd and Highway 89	Southwest	Northeast	8/15, 11 AM - 12 PM
		034	1st Street and Highway 89	Southwest	Northeast	8/15, 1-2 PM
		035	Fanning Drive and Highway 89	Southwest	Northeast	8/15, 3-4 PM
		036	4th Street and 7th Avenue	Southeast	North	8/16, 8-9 AM
		037	Railhead Avenue and Highway 89	Southwest	Northeast	8/16, 10-11 AM
		038	Country Club Drive and Courtland Boulevard	Southwest	East	8/16, 12-1 PM
	Sedona	039	Highway 89A and SR 179	Southeast	North	8/16, 4-5 PM
Maricopa	Phoenix	040	Van Buren Street and 2nd Street	Northwest	South	8/3, 7-8 AM
		041	Thunderbird Road and 7th Street	Southeast	North	8/3, 7-8 AM
		042	Northern Avenue and 35th Avenue	Northwest	South	8/3, 7-8 AM
		043	Thunderbird Road and 19th Avenue	Northwest	South	8/13, 11 AM - 12 PM
		044	Bethany Home Road and 7th Street	Northeast	West	8/12, 8-9 AM
		045	Van Buren Street and 16th Street	Southwest	East	8/7, 7-8 AM
		048	7th Street and I-17	Northwest	South	8/7, 9-10 AM

(CONTINUED)

(CONT'D) TABLE 4: INTERSECTIONS UTILIZED

COUNTY	CITY	SITE CODE	INTERSECTION	CORNER	DIRECTION OF TRAFFIC	DATE
Maricopa	Phoenix	049	I-17 and Buckeye Road (Ramp)	Southwest	North	8/7, 11 AM - 12 PM
		050	I-17 and Dunlap Avenue (Ramp)	Southeast	North	8/13, 9-10 AM
		051	Northern Avenue and I-17 (Ramp)	Northwest	South	8/13, 7-8 AM
		052	48th Street and Broadway Road	Northwest	South	8/3, 7-8 AM
	Sun City	053	Grand Avenue and 99th Avenue	Northwest	South	8/3, 7-8 AM
		054	Thunderbird Road and 99th Avenue	Southwest	East	8/4, 8-9 AM
	Peoria	055	Cactus Road and 83rd Avenue	Southeast	North	8/4, 10-11 AM
		056	Peoria Avenue and 75th Avenue	Southwest	East	8/3, 7-8 AM
	Mesa	057	Baseline Road and Dobson Road	Southeast	North	8/8, 7-8 AM
		058	Alma School and Southern Avenue	Southwest	East	8/8, 9-10 AM
		059	US 60 and Country Club Drive (Ramp)	Southwest	East	8/8, 11 AM - 12 PM
	Scottsdale	060	Scottsdale Road and Shea Boulevard	Southwest	East	8/9, 7-8 AM
		061	Lincoln Drive and Scottsdale Road	Southeast	North	8/9, 9-10 AM
		046	Thomas Road and 56th Street	Southwest	East	8/9, 11 AM - 12 PM
	Glendale	062	Peoria Avenue and 59th Avenue	Southwest	East	8/6, 8-9 AM
		063	Bell Road and 59th Avenue	Southwest	East	8/6, 10-11AM
	Tempe	064	University Drive and Hohokam Expwy (Ramp)	Southeast	North	8/12, 10-11 AM
		065	McClintock Drive and Southern Avenue	Southwest	East	8/11, 10-11 AM
		047	University Drive and Priest Drive	Northeast	West	8/11, 9-10 AM

(CONTINUED)

(CONT'D) TABLE 4: INTERSECTIONS UTILIZED

COUNTY	CITY	SITE CODE	INTERSECTION	CORNER	DIRECTION OF TRAFFIC	DATE
Maricopa	Gilbert	066	Country Club Drive and Guadalupe Road	Southeast	North	8/11, 11 AM - 12 PM
Pima	Tucson	067	Drexel Road and Campbell Avenue	Southwest	East	8/22, 11 AM - 12 PM
		068	Fort Lowell Road and Swan Road	Southeast	North	8/22, 1-2 PM
		069	River Road and Campbell Avenue	Northwest	South	8/22, 3-4 PM
		070	Catalina Highway and Tanque Verde Road	Northeast	West	8/23, 8-9 AM
		071	Kolb Road and Irvington Road	Northwest	South	8/23, 10-11 AM
		072	Orange Grove Road and Skyline Drive	Southwest	East	8/23, 12-1 PM
		073	Kolb Road and Broadway Boulevard	Southwest	East	8/23, 2-3 PM
		074	Margaret Avenue and Grant Road	Southeast	North	8/23, 4-5 PM
		075	Houghton Road and Speedway Boulevard	Northeast	West	8/24, 7-8 AM
		076	Kolb Road and 22nd Street	Northwest	South	8/24, 9-10 AM
		077	La Canada Drive and River Road	Southeast	North	8/24, 11 AM - 12 PM
		078	22nd Street and Craycroft Road	Northeast	West	8/24, 1-2 PM
		079	Broadway Boulevard and Country Club Road	Northwest	South	8/24, 3-4 PM
		080	Ajo Way and 12th Avenue	Northeast	West	8/15, 11 AM - 12 PM
		081	Golf Link Road and Wilmot Road	Northwest	South	8/15, 1-2 PM
		082	Drexel Road and Mission Road	Southeast	North	8/15, 3-4 PM
		083	Speedway Boulevard and Craycroft Road	Northwest	South	8/16, 8-9 AM
		084	I-10 and Grant Road	Northeast	West	8/16, 10-11 AM
		085	I-10 and South 6th Avenue (Ramp)	Southwest	East	8/16, 12-1 PM
		086	34th Street and Kino Parkway	Northeast	West	8/16, 2-3 PM
		087	Ina Road and Oracle Road	Northeast	West	8/16, 4-5 PM

(CONTINUED)

(CONT'D) TABLE 4: INTERSECTIONS UTILIZED

COUNTY	CITY	SITE CODE	INTERSECTION	CORNER	DIRECTION OF TRAFFIC	DATE
Pima	Ajo	088	La Mina and Interstate 85	Southeast	North	8/19, 8-9 AM
		089	La Mina and Interstate 85	Southwest	East	8/19, 10-11AM
Pima	Green Valley	090	La Canada Drive and Duval Mine Road	Northeast	West	8/17, 8-9 AM
		091	La Canada Drive and Esparanza Boulevard	Southeast	North	8/17, 10-11 AM
		092	Duval Mine Road and Frontage Road	Southeast	North	8/17, 12-1 PM
		093	La Canada Drive and Continental Road	Southwest	East	8/17, 2-3 PM
Yavapai	Prescott	094	Sheldon Street and Montezuma Street	Northeast	West	8/7, 10-11 AM
		095	Sheldon Street and Marina Street	Southeast	North	8/7, 1-2 PM
		096	Iron Springs Road and Gail Gardner Way	Southwest	East	8/7, 3-4 PM
		097	Whipple Street and Ruth Street	Northeast	West	8/8, 8-9 AM
		098	Rosser Street and Willow Creek Road	Northeast	West	8/8, 10-11 AM
		099	Gurley Street and Cortez Street	Northwest	South	8/8, 12-1 PM
		100	Sheldon Street and Pleasant Street	Northeast	West	8/8, 2-3 PM
		101	Pulliam Drive and Willow Creek Road	Southeast	North	8/8, 4-5 PM
		102	Gurley Street and Grove Avenue	Southwest	East	8/9, 7-8 AM
		103	Ainsworth Drive and Willow Creek Road	Southwest	East	8/9, 9-10 AM
		104	Sheldon Street & Yavapai College Driveway	Southwest	East	8/9, 11 AM - 12 PM
		105	Highway 89 and Arizona Avenue	Southeast	North	8/9, 1-2 PM
		106	Sheldon Street and Highway 89	Southwest	East	8/9, 3-4 PM
		107	Gurley Street and Granite Street	Southeast	North	8/14, 10-11 AM
		108	Schemner Drive and Miller Valley Road	Southeast	North	8/14, 1-2 PM
		109	Gurley Street and Montezuma Street	Northwest	South	8/14, 3-4 PM

(CONTINUED)

(CONT'D) TABLE 4: INTERSECTIONS UTILIZED

COUNTY	CITY	SITE CODE	INTERSECTION	CORNER	DIRECTION OF TRAFFIC	DATE
Yavapai	Prescott	110	Sheldon Street and Grove Avenue	Northwest	South	8/15, 8-9 AM
		111	Gurley Street and Mount Vern Avenue	Southeast	North	8/15, 10-11 AM
		112	Gurley Street and Marina Street	Southeast	North	8/15, 12-1 PM
		113	Gurley Street and Park Avenue	Northwest	South	8/15, 2-3 PM
Yavapai	Prescott	114	Highway 69 and Prescott East Highway	Northeast	West	8/15, 4-5 PM
	Valley	115	Highway 69 and Glassford Hill Road	Southwest	East	8/16, 7-8 AM
		116	Highway 69 and Robert Road	Southeast	North	8/16, 9-10 AM
Yuma	Yuma	117	Pacific Avenue and 32nd Street	Southwest	East	8/21, 12-1 PM
		118	Pacific Avenue and Palo Verde Street	Southeast	North	8/21, 2-3 PM
		119	32nd Street and 4th Avenue	Southwest	East	8/22, 7-8 PM
		120	32nd Street and Arizona Avenue	Northwest	South	8/22, 9-10 AM
		121	24th Street and Arizona Avenue	Southwest	East	8/22, 11 AM - 12 PM
		122	24th Street and 4th Avenue	Northwest	South	8/22, 1-2 PM
		123	24th Street and Avenue A	Northwest	South	8/22, 3-4 PM
		124	32nd Street and Avenue A	Northeast	West	8/23, 8-9 AM
		125	32nd Street and Avenue B	Southwest	East	8/23, 10-11 AM
		126	24th Street and Avenue B	Southeast	North	8/23, 12-1 PM
		127	16th Street and Avenue B	Northeast	West	8/23, 2-3 PM
		128	16th Street and Avenue A	Northwest	South	8/23, 4-5 PM
		129	16th Street and 4th Avenue	Southeast	North	8/24, 7-8 AM
		130	16th Street and Arizona Avenue	Southwest	East	8/24, 9-10 AM
		131	28th Street and 4th Avenue	Southeast	North	8/24, 11 AM - 12 PM

Once the observational sites had been determined, BRC conducted a training session for its field observers. This training involved both classroom and in-field activities. Following training, the required observations were undertaken according to the specifications detailed in the Field Observers Instruction Manual presented in the Appendix of this report. Throughout this process observe-the-observer spot checks were conducted to ensure quality control.

As the data collection segment of this study was being undertaken, the completed observational forms were turned over to BRC's in-house computer department for inputting. Upon completion of data entry, a series of validity and logic checks were run on the data to ensure it was clean.

Following data entry and cleaning the seat belt, child restraint, helmet use and cell phone use data on Tables 5 to 9 were generated using the following equation:

SBU Rate =
Sum {weight of i^{th} site * number of belted drivers at i^{th} site} /
Sum {weight of i^{th} site * total number of observed vehicles at i^{th} site}

TABLE 5: DRIVER SEAT BELT USE

				Weighted Number of	
County	Belted Drivers	Non-Belted Drivers	Weight (000)	Belted Drivers (000)	Non-Belted Drivers (000)
Maricopa	2,972	716	85,287	253,472,964	61,065,492
Pima	2,706	316	22,777	61,634,562	7,197,532
Yavapai	2,244	364	7,622	17,103,768	2,774,408
Coconino	3,013	486	7,020	21,151,260	3,411,720
Yuma	1,050	232	5,223	5,484,150	1,211,736
Cochise	506	162	4,217	2,133,802	683,154
Total	12,491	2,276		360,980,506	76,344,042
Percent	84.6	15.4		**82.5**	**17.5**

~~~~~~~~~~~~~~~~

behavior research center, inc.
phone (602) 258-4554 • fax (602) 252-2729
Research in Public Opinion, Public Policy & Consumer Behavior
p.o. box 13178 • phoenix, arizona 85002 • www.brc-research.com
~~~~~~~~~~~~~~~~

TABLE 6: PASSENGER SEAT BELT USE

County	Belted Passengers	Non-Belted Passengers	Weight (000)	Weighted Number of Belted Passengers (000)	Weighted Number of Non-Belted Passengers (000)
Maricopa	442	218	85,287	37,696,854	18,592,566
Pima	554	88	22,777	12,618,458	2,004,376
Yavapai	408	88	7,622	3,109,776	670,736
Coconino	894	188	7,020	6,275,880	1,319,760
Yuma	245	64	5,223	1,279,635	334,272
Cochise	123	46	4,217	518,691	193,982
Total	2,666	692		61,499,294	23,115,692
Percent	79.4	20.6		**72.7**	**27.3**

~~~~~~~~~~~~~~~

TABLE 7: CHILD RESTRAINT USE

County	Restrained Children	Non-Restrained Children	Weight (000)	Weighted Number of Restrained Children (000)	Weighted Number of Non-Restrained Children (000)
Maricopa	148	25	85,287	12,622,476	2,132,175
Pima	64	5	22,777	1,457,728	113,885
Yavapai	59	9	7,622	449,698	68,598
Coconino	59	6	7,020	414,180	42,120
Yuma	21	12	5,223	109,683	62,676
Cochise	13	2	4,217	54,821	8,434
Total	364	59		15,108,586	2,427,888
Percent	86.1	13.9		**86.2**	**13.8**

~~~~~~~~~~~~~~~

behavior research center, inc.
phone (602) 258-4554 • fax (602) 252-2729
Research in Public Opinion, Public Policy & Consumer Behavior
p.o. box 13178 • phoenix, arizona 85002 • www.brc-research.com

TABLE 8: MOTORCYCLE HELMET USE

County	Helmeted Riders	Non-Helmeted Riders	Weight (000)	Weighted Number of Helmeted Riders (000)	Weighted Number of Non-Helmeted Riders (000)
Maricopa	62	21	85,287	5,287,794	1,791,027
Pima	7	0	22,777	159,439	0
Yavapai	13	2	7,622	99,086	15,244
Coconino	57	28	7,020	400,140	196,560
Yuma	3	3	5,223	15,669	15,669
Cochise	4	5	4,217	16,868	21,085
Total	146	59		5,978,996	2,039,585
Percent	71.2	28.8		**74.6**	**25.4**

TABLE 9: CELL PHONE USE BY DRIVER

County	User	Non-User	Weight (000)	Weighted Number of User (000)	Weighted Number of Non-User (000)
Maricopa	692	2,996	85,287	59,018,604	255,519,852
Pima	89	2,933	22,777	2,027,153	66,804,941
Yavapai	98	2,510	7,622	746,956	19,131,220
Coconino	220	3,279	7,020	1,544,400	23,018,580
Yuma	24	1,258	5,223	125,352	6,570,534
Cochise	58	610	4,217	244,586	2,572,370
Total	1,181	13,586		63,707,051	373,617,497
Percent	8.0	92.0		**14.6**	**85.4**

behavior research center, inc.
phone (602) 258-4554 • fax (602) 252-2729
Research in Public Opinion, Public Policy & Consumer Behavior
p.o. box 13178 • phoenix, arizona 85002 • www.brc-research.com

APPENDIX

Police Agency Notification Letter
List of Agencies/Individuals Receiving Notification Letters
Observer Cover Letters
Field Observer Instructional Manual

behavior research center, inc.
phone (602) 258-4554 • fax (602) 252-2729
RESEARCH IN PUBLIC OPINION, PUBLIC POLICY & CONSUMER BEHAVIOR
p.o. box 13178 • phoenix, arizona 85002 • www.brc-research.com

July 24, 2007

«Title»«Firstname»«Last name»
«Company»
«Address»
«City»«State»«zip»

Dear «Firstname» :

The Governor's Office of Highway Safety is conducting its annual study to determine the extent of seat belt, child safety restraint and motorcycle helmet usage in Arizona. The purpose of this letter is to notify you that your area of jurisdiction has been selected as one of the locations for this research. Among the areas where this research is being conducted are the following:

COCHISE COUNTY	-	Sierra Vista, Benson, Douglas
COCONINO COUNTY	-	Flagstaff, Sedona
MARICOPA COUNTY	-	Phoenix, Sun City, Peoria, Mesa, Scottsdale, Glendale, Tempe, Gilbert
PIMA COUNTY	-	Tucson, Ajo, Green Valley
YAVAPAI COUNTY	-	Prescott, Prescott Valley
YUMA COUNTY	-	Yuma

This study is being conducted for the Governor's Office of Highway Safety by the Behavior Research Center (BRC) of Arizona during the month of August. Personnel from BRC will be visually observing usage patterns at randomly selected intersections which are controlled by either stop signs or signals throughout the cities noted above during this time period. While conducting their observations, these personnel will be identifiable by the red safety vests they will be wearing.

If you require any further information on this research effort, please feel free to give me a call at either 602-255-3216 (OFFICE) or 602-228-1837 (CELL). Thank you for your cooperation on this important project.

Sincerely,

Officer Arnie Cuellar
Phoenix Police Department
Arizona Occupant Protection Coordinator

SEAT BELT/MOTORCYCLE HELMET/CHILD RESTRAINT USE SURVEY

AGENCIES/INDIVIDUALS RECEIVING NOTIFICATION
LETTER ABOUT SURVEY

Sheriff Larry Dever	Cochise County Sheriff's Office
Sheriff William Pribil	Coconino County Sheriff's Office
Sheriff Joseph Arpaio	Maricopa County Sheriff's Office
Sheriff Clarence Dupnik	Pima County Sheriff's Office
Sheriff Steve Waugh	Yavapai County Sheriff's Office
Sheriff Ralph Ogden	Yuma County Sheriff's Office
Chief Mike Martinez	Airport Authority Police Department
Chief Glenn Nichols	Benson Police Department
Chief Charles Austin	Douglas Police Department
Chief Brent Cooper	Flagstaff Police Department
Acting Chief Tim Dorn	Gilbert Police Department
Chief Steven Conrad	Glendale Police Department
Chief George Gascon	Mesa Police Department
InterimChief Larry Ratcliff	Peoria Police Department
Chief Jack Harris	Phoenix Police Department
Chief Randy Oaks	Prescott Police Department
Chief Dan Schatz	Prescott Valley Police Department
Chief Alan Rodbell	Scottsdale Police Department
Chief Joe Vernier	Sedona Police Department
Chief Kenneth Kimmel	Sierra Vista Police Department
Chief Tom Ryff	Tempe Police Department
Chief Richard Miranda	Tucson Police Department
Chief William Robinson	Yuma Police Department
Director Roger Lee Vanderpool	AZ Department of Public Safety
Chief John Pickens	ASU Police Department, DPS
Chief Anthony Daykin	U of A Police Department
Interim Chief Kathy Paleski	NAU Dept. of Public Safety
Police Commander John Sutten	ASU East Police Department
Commander Mark Roberts	ASU West Police Division
Chief D.W. Mitchell	Arizona Western College Police
Chief Kevin Nelson	Yavapai College Police
Chief Larry Seligman	Pascua Yaqui Indian Tribe Police Dept.
Acting Chief James Jackson	Quechan Indian Tribe Police Dept.
Acting Chief Karl Auerbach	Salt River Indian Community Police Dept.
Chief Robert Reed	Yavapai-Prescott Indian Tribe Police Dept.
Chief Thomas V. Lane	Arizona State Capitol Police Dept.

behavior research center, inc.
phone (602) 258-4554 • fax (602) 252-2729

RESEARCH IN PUBLIC OPINION, PUBLIC POLICY & CONSUMER BEHAVIOR
p.o. box 13178 • phoenix, arizona 85002 • www.brc-research.com

August 2007

To Whom It May Concern:

The Governor's Office of Highway Safety is conducting its annual study to determine the extent of seat belt, child safety restraint and motorcycle helmet usage in Arizona. Among the areas where this research is being conducted are the following:

COCHISE COUNTY	-	Sierra Vista, Benson, Douglas
COCONINO COUNTY	-	Flagstaff, Sedona
MARICOPA COUNTY	-	Phoenix, Sun City, Peoria, Mesa, Scottsdale, Glendale, Tempe, Gilbert
PIMA COUNTY	-	Tucson, Ajo, Green Valley
YAVAPAI COUNTY	-	Prescott, Prescott Valley
YUMA COUNTY	-	Yuma

The bearer of this letter is employed by Behavior Research Center, Inc. and is authorized by the Governor's Office of Highway Safety to conduct these surveys. Surveys will be conducted at random intersections throughout the cities mentioned above.

If you have any questions and/or concerns, please contact Bruce Hernandez or Adrianna Santillo of Behavior Research Center at 602-258-4554 or myself at either 602-255-3216 (OFFICE) or 602-228-1837 (CELL).

Thank you for your cooperation on this important project.

Sincerely,

Officer Arnie Cuellar
Phoenix Police Department
Arizona Occupant Protection Coordinator

SEAT BELT/CHILD RESTRAINT/HELMET USE SURVEY - 2007085

FIELD OBSERVER INSTRUCTION MANUAL

BACKGROUND AND PURPOSE

This study is being conducted for the Governor's Office of Highway Safety to determine the use of safety belts, child restraints and motorcycle helmets in Arizona and is being conducted as part of the State and Community Highway Safety Grant Program which was enacted by the Highway Safety Act of 1966.

During this study curbside observations will be collected at a total of 131 randomly pre-selected intersections in Arizona, which are controlled by either stop signs or signals. Among the areas where observations are being conducted are the following six counties which represent over 85 percent of the State's population:

Cochise County	-	Sierra Vista, Benson, Douglas
Coconino County	-	Flagstaff, Sedona
Maricopa County	-	Phoenix, Sun City, Peoria, Mesa, Scottsdale, Glendale, Tempe, Gilbert
Pima County	-	Tucson, Ajo, Green Valley
Yavapai County	-	Prescott, Prescott Valley
Yuma County	-	Yuma

During this study the following information will collected about the passenger vehicles and motorcycles which are observed at the 131 pre-selected intersections.

Passenger Motor Vehicles - For the purpose of this study passenger motor vehicles are defined as either: 1) passenger cars, or; 2)other passenger vehicles which include light pickup trucks, vans and sport utility vehicles. Commercial vehicles such as delivery trucks and the like are not to be included in any counts during this research. The information which will be recorded on passenger motor vehicles is: 1) the use of seat belts by drivers and front seat outboard passengers, and; 2) The use of child restraint seats by children under five years old either in the front passenger seat or rear seat.

Motorcycles - When a motorcycle is observed the use of a helmet by the driver and any passenger will be recorded.

behavior research center, inc.
phone (602) 258-4554 • fax (602) 252-2729
RESEARCH IN PUBLIC OPINION, PUBLIC POLICY & CONSUMER BEHAVIOR
p.o. box 13178 • phoenix, arizona 85002 • www.brc-research.com

Each of the 131 intersections will be observed for a period of one, pre-selected hour and all of the observations will be collected during daylight hours when there is sufficient natural light to permit clear vision into vehicles. The data collection segment of this project will be conducted between August 3 and August 19, 2007.

FIELD OBSERVER RESPONSIBILITIES

All Field Observers on this project will be thoroughly trained on all the specific activities they are required to conduct and have the following responsibilities:

1) Attending and successfully completing an initial training session

2) Accurately following the prescribed procedures to complete all necessary observations for each vehicle

3) Maintaining daily time reports and other administrative documents required by the survey supervisor

4) Maintaining data collection records in an accurate and complete manner

5) Meeting all established quality control and performance standards

6) Committing their time and effort for the duration of the project

7) Reporting your daily site counts to your supervisor on a daily basis

8) To be safety conscious - safety first

All field observers will report to an assigned supervisor who will work closely with them throughout the survey. Whenever a field observer is unsure about a procedure or action to be taken, and adequate instructions cannot be found in this manual, the issue is to be discussed with the supervisor immediately.

OBSERVER MATERIALS

Each observer will have the following materials for use of this project.

- Two Cover Letters. A copy of a letter which was sent to police and sheriff's departments in the communities where the observations are being conducted and a letter of authorization explaining the study and its purpose to anyone interested in knowing.

behavior research center, inc.
phone (602) 258-4554 • fax (602) 252-2729
RESEARCH IN PUBLIC OPINION, PUBLIC POLICY & CONSUMER BEHAVIOR
p.o. box 13178 • phoenix, arizona 85002 • www.brc-research.com

- Daily Observation Packets. An assignment sheet detailing the locations where the observations will be conducted each day accompanied by Observation Forms for each selected site and a map for each selected site. The observation forms contain enough space to record data on 210 vehicles. Should the number of vehicles observed at a site exceed 210, the observer shall use a blank observation form which will be provided.

- A safety vest to be worn at all times while conducting observations.

- A wide brimmed hat.

- Bottled water.

- A tote bag.

- A BRC name tag.

- A clipboard.

- Pencils.

FIELD OBSERVATION TECHNIQUES

This section provides a review of basic field observation techniques. All field observers must be proficient in the application of these techniques.

1) Each site will be observed for a period of one hour.

2) Each traffic observer shall observe the curbside lane of traffic at select intersections or highway exits controlled by stop signs or signals.

3) If more than one passenger vehicle (motorcycle) stops, the field observer visually inspects the second vehicle for use or non-use of shoulder seat belts, helmets, child restraints. If only one motor vehicle has stopped, then the field observer observes that vehicle only.

4) After observing the second vehicle and recording the information on the Observation Form, the field observer shall continue to visually inspect and record observations for the vehicles that are stopped behind the second vehicle. Continue observing all vehicles until the signal changes from red to green or there are no additional vehicles to observe.

5) When the light turns green, the field observer shall return to the intersection for the next cycle of observation.

behavior research center, inc.
phone (602) 258-4554 • fax (602) 252-2729
RESEARCH IN PUBLIC OPINION, PUBLIC POLICY & CONSUMER BEHAVIOR
p.o. box 13178 • phoenix, arizona 85002 • www.brc-research.com

6) If for some unexpected reason you are not able to be at your assigned observation site at the assigned time, you must immediately contact your supervisor to alert them of the situation. Observe-the-observer spot checks will be conducted throughout this project so it is very important that you report this occurrence to your supervisor.

7) If observations cannot be conducted at an assigned site at the assigned time due to inclement weather, construction, an accident, or other safety problem you must immediately contact your supervisor to alert them of the situation.

The following items are pre-coded on each Observation Form - site code, specific intersection corner to be observed, direction of traffic to be observed, and observation number. The specific date and start time of the observation are not pre-coded and must be filled in by the field observer - date (day/month), time (10:00 AM).

The following information is collected on each vehicle observed:

Vehicle Type
Pass - Passenger car
Other - Other passenger vehicles to include light trucks, vans, and sport utility vehicles
Motor - Motorcycles

Safety Belt/Helmet Use
Driver - Yes, using shoulder belt or helmet.
- No, not using shoulder belt or helmet.
Passenger - Yes, using shoulder belt or helmet.
- No, not using shoulder belt or helmet.

The following information is collected on vehicles containing children under five years old in either the front passenger seat or rear seat. Because of the infrequency of infants and toddlers in vehicles, the first priority of the observer will be to collect data on these age groups. For example, if the vehicle under observation has an infant or toddler as well as older passengers, data on the younger passenger will be collected first. Data for the adult passengers will be recorded only if there is sufficient time to accurately determine their use of seat belts.

Child Restraint
Yes, using child restraint seat.
No, not using child restraint seat.

The final piece of information collected is whether or not the vehicle driver is talking on a cell phone at the time of the observation.

Cell Phone
Yes, using cell phone.
No, not using cell phone.

behavior research center, inc.
phone (602) 258-4554 • fax (602) 252-2729
RESEARCH IN PUBLIC OPINION, PUBLIC POLICY & CONSUMER BEHAVIOR
p.o. box 13178 • phoenix, arizona 85002 • www.brc-research.com

SAMPLE FORM
SEAT BELT/CHILD RESTRAINT/HELMET USE SURVEY – 2007085

SITE CODE**:** **040 – Maricopa/Phoenix** DATE: _____ _____ TIME: _____
INTERSECTION: **VAN BUREN STREET AND 2ND STREET (NORTHWEST - SOUTH)**

OBSERVATION NO.	VEHICLE TYPE			— SAFETY BELT/HELMET — DRIVER		PASSENGER		CHILD RESTRAINT		CELL PHONE	
	PASS	OTHER	MOTOR	YES	NO	YES	NO	YES	NO	YES	NO
001	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
002	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
003	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
004	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
005	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
006	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
007	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
008	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
009	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
010	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
011	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
012	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
013	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
014	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
015	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
016	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
017	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
018	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
019	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
020	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
021	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
022	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
023	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
024	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
025	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
026	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
027	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
028	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
029	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
030	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
031	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
032	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
033	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
034	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2
035	☐1	☐2	☐3	☐1	☐2	☐1	☐2	☐1	☐2	☐1	☐2